Author's response to reviews

Title: Evolution of Breast Cancer Management over the Last Decade

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Author's response to reviews: see over
Dr Melissa Norton,
Editor-in-Chief,
BMC Surgery.

Re: Evolution of Breast Cancer Management in the Last Decade

HM Heneghan, RS Prichard, A Devaney, C Malone, R McLaughlin, KJ Sweeney, MJ Kerin

Dear Dr. Norton

Thank you for your comments and invitation to submit a revised manuscript. We have endeavoured to respond to the reviewers’ questions and concerns comprehensively and hope that they have been sufficiently addressed. We feel strongly that this paper, documenting the dramatic changes in breast cancer practices in Ireland over the last decade, is important in highlighting the paradigm shift that has occurred in the management of breast cancer over the last ten years. Until now, particularly in Ireland, the sheer impact of this paradigm shift upon all modalities of treatment, and the current trends in management of the disease, have been largely unknown, or anecdotal. We believe it is important to quantify and highlight these changed practices patterns, as this information is necessary to not only provide evidence of adherence to best practice guidelines, but also to plan for breast cancer service provision in the future.

Our responses to the Reviewers’ comments are detailed below:

Reviewer 1

Comment: I have two comments/questions for the authors that would fall into the “Discretionary Revisions” category:
1. You found no change with respect to tumor size and the mean tumor size remained ~2.5 cm. By American standards, this is quite large. Why do you think the tumor size in your study was so large, and that it did not change over time? What are the implications this finding has for screening mammography in your population?

Reply: Mean tumour size in our tertiary referral symptomatic breast cancer unit did not change significantly over time: 28.5mm in 1995/1996 versus 25.6mm in 2005/2006, p = 0.133 [Figure 1]. However there was, on average, a decrease in tumour size of 2.9mm (non-significant). This study preceded the introduction of a breast screening programme in the West of Ireland, thus all of the cancers were symptomatic and we believe this explains the relatively large tumour size presenting in 2005/2006. We expect that if this study is repeated in the future after a similar time interval, then certainly the mean tumour size at presentation should have significantly decreased following the introduction of our screening programme. Furthermore, we believe our finding supports the need for breast screening in our population, in order to detect breast cancer at earlier stages when curative resection is possible, need for adjuvant therapies is reduced and overall outcome for patients is far superior compared to those presenting with more advanced tumours.
Furthermore, you found a greater proportion of patients who presented with distant metastatic disease. You attribute this to "improvements in diagnostic radiology". Do you routinely get a metastatic workup on every patient? If not, this could represent a later stage at presentation which may have implications for patient education, early screening and diagnosis.

Reply: Current practice in our institution is to routinely obtain staging workup on all patients with invasive cancers. A decade earlier, this was not the case and metastatic workup was performed mainly on patients with larger (≥T3) tumours, or those symptomatic of metastatic disease. Additionally, routine staging procedures is now more sophisticated than ten years previously. Isotope bone scans and computed topography of thorax, abdomen and pelvis, have in recent years replaced less sensitive staging procedures such as chest x-ray, liver ultrasound and serological tumour marker assessment. We believe this widespread use it of more sensitive imaging techniques in 2005/2006 is likely to have contributed to the greater detection of metastatic disease at presentation rather than a true increase in later stage at diagnosis. Nonetheless, we agree with Reviewer 1 that our finding of stage IV disease in 11% of breast cancer patients as recently as 2005/2006 strongly supports the need for improving patient awareness and breast screening in order to decrease this proportion in the future.

Reviewer 2
Comment: Interesting paper documenting the change in breast cancer cases seen in Ireland. The change in practice has been dramatic - in part by the use of open biopsy to make a diagnosis of cancer in 1995/6 when the majority of the UK was using FNA or core. Also, breast conserving surgery was slow to be introduced but is now established. This might be worth further discussion. The change in breast conserving surgery in Ireland is at least a decade behind the change in the UK.

Reply: Reviewer 2 firstly acknowledges the interesting findings within our paper, with regard to the dramatic changes in breast cancer practices over the last decade. We agree with reviewer 2 that change in breast conserving surgery in Ireland has been slower than in the UK. This is in part contributed to by resource issues in the Irish health service. With regard to the predominant use of open biopsy for diagnoses in our unit in 1995/1996, core biopsy was introduced just prior to those two years but had not become routine practice until the late 1990’s. With regard to the change to breast conserving surgery, several local and national obstacles impeded that change in Ireland, in particular the availability of Radiotherapy services. A decade ago, there was only one centre in Ireland providing radiotherapy services to all cancer patients. The move to breast conserving surgery necessitated restructuring of services regionally and the time taken to do this was lengthy. This may explain the relative delay in changing practice patterns in Ireland. We feel that this manuscript is perhaps not the most appropriate forum for discussion of the political and economic issues associated with these changes as our main objectives were to quantify and highlight the great extent of change that has occurred in breast cancer management over time. Future studies in our unit aim to address those economic and service provision issues in more detail. In particular we are currently conducting a cost of illness study to assess the associated change in cost of breast cancer management over this same time period.
We have also taken into account the recommendations made by Dr I Pueble (senior editor) who communicated the reviewers’ comments and editorial decision to us. These are as follows:

**Modifications to Manuscript:**

**Title**
- Title has been changed to ‘Evolution of Breast Cancer Management in Ireland: A decade of change’ in order to give an indication of the setting of the study.

**Introduction:**
- This section has been renamed ‘Background’

**Patients & Methods**
- This section has been renamed ‘Methods’

**Competing interests**
- This has been declared at the end of the manuscript text, before the references. We, the authors, declare that we have no competing interests.

**Funding**
- This has been included under Acknowledgements.

**Figures**
- The text ‘Figure 1’ and ‘Figure 2’ has been removed from the image files and placed only in the manuscript file after the references.

We now wish to submit a revision of our manuscript for publication. We would like to thank the reviewers and editorial team for their time and consideration in reviewing our manuscript and we hope the revisions will be satisfactory. We trust that our revised manuscript has been rewritten in accordance the journal’s instructions. All authors have seen and approved the revised manuscript. Should there be any further concerns which we can address please do not hesitate to contact us. We look forward to hearing your response.

Yours Sincerely

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